



Build Change, Virtual Reality & 3D Development Internship

Project location: Bhimtal, Sindupalchowk (field work) and Sanepa, Lalitpur (office work)
- Nepal

Proposed start/end date: June 7 – September 7, 2017, any 10-12 week period within these dates. Earlier start date may be possible.

Brief Description of your organization

Build Change is an award-winning international non-profit social enterprise based in Denver, Colorado which has been in operation since 2004. Build Change saves lives in earthquakes and typhoons by empowering people in emerging nations to build homes and schools that will protect their families and children. Build Change works to strengthen buildings before and after natural disasters strike in Colombia, Guatemala, Haiti, Indonesia, the Philippines, Nepal, and formerly China. Over 26,600 people have been trained on disaster-resistant design and construction who have in turn built more than 166,000 safer buildings. In the process, Build Change has created more than 12,500 jobs and more than 250,000 people are living in safer houses and learning in safer schools. Please visit our [website](#) for further information.

Project Description

Build change is providing technical assistance for a project in which houses in a highly earthquake-affected village in Sindhupalchowk will be retrofitted and the village will be established as a model to demonstrate retrofits and safe construction practices. As part of this project, a reference model/village will be created that would be used to educate homeowners as well as local builders to make them familiar with retrofitting techniques. This model will also be used to advocate at the Government level by allowing their officials, who have no time to visit the model village, to now virtually experience the benefits and impacts of retrofitting. We will also be preparing a time-lapse video to showcase how a badly damaged community was transformed into an earthquake resistant village.

About this Internship Project

The objective for this internship is to show the transformation of a village that was highly impacted by the 2015 earthquake into a disaster-resilient community by creating virtual reality models of a village with retrofitted buildings, surroundings and construction sequencing time series animation video focusing on the changes over time. You will gain hands-on, real-world experience by working together with the Engineering team at Build change to perform the following activities:

- Create time lapse videos showing the transformation of a damaged village to a resilient community with retrofitted buildings
- Create a VR model of the project site with aerial and terrestrial images, videos focusing on a completed VR experience for interior, exterior of retrofitted buildings highlighting all the retrofit elements installed
- Train the engineering team to fully utilize the Autodesk Revit capabilities to create 3D model of earthquake resistant buildings and its components

- Work together with engineering team to prepare awareness guidelines along with 3D designs of major retrofit elements in stone masonry
- Use Autodesk Revit to create animations overlaying 3D building designs over real landscape.
- Create and maintain related technical documentation

In addition:

- Highly accurate point clouds can be generated by pairing high end devices like Leica Scan Station P16 laser scanner with Autodesk ReCap software. This would help us to create detailed models showing the minute retrofit elements inside a building by also enabling detailed view of these structures. The intern will also provide support for these kinds of precise hardware as well.

Qualifications, Skills & Experience

The ideal candidate should possess the following:

- Enrollment in the [Autodesk Student Expert](#) program prior to the internship commencing is **required**. *Please provide documentation if you are already enrolled in the program.*
- Experience with VR systems and using Autodesk products to generate compatible formats.
- Knowledge of the Autodesk family of software products, more specifically Autodesk Revit, Recap 360, InfraWorks 360 and Civil 3D software to create high resolution 3D models from UAV images.
- Interest in post disaster response and reconstruction or pre-disaster mitigation
- Interest in instruction and teaching
- Good communication skills and excellent teamwork abilities
- Passion for new technologies like drones and VR
- No ego, drama, or pessimism; the successful candidate will be flexible, humble, and patient and have a good sense of humor
- Women are encouraged to apply
- Valid passport

What's in it for you

- Gain valuable professional experience working for an award-winning nonprofit social enterprise
- Deepen and expand your skills using a variety of Autodesk programs through real-world application
- Satisfaction in knowing your services will be a part of a campaign that will help government agents and local homeowners to understand the value of retrofitting, and will develop the professional capacity of Build Change's team
- Develop your communication and training skills in relating information
- Experience another culture first-hand and assist one of the hardest-hit areas from the 2015 earthquake
- Paid compensation with housing, food and transportation provided

Please submit your resume and a cover letter to Trena Moya at trena@buildchange.org by 30 April 2017 and include **Virtual Reality & 3D Intern** in the subject line. Applications will be reviewed as they are received and interviews may be scheduled prior to the closing date.